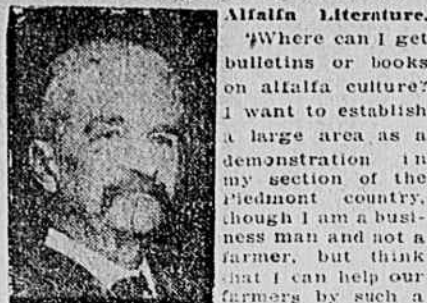


WITH THE FARMERS

By Prof. W. F. MASSEY

Wednesday, September 3, 1913.



Alfalfa Literature.
Where can I get bulletins or books on alfalfa culture? I want to establish a large area, as a demonstration in my section of the Piedmont country, though I am a business man and not a farmer, but think that I can help our farmers by such a demonstration. The only book on alfalfa is "The Book of Alfalfa," by F. D. Coburn, secretary of the Kansas Board of Agriculture, published by the Orange Judd Co., New York City, and costs about \$2, probably. You can get a bulletin on alfalfa by applying to the Secretary of Agriculture, Washington, D. C. Perhaps the Virginia Experiment Station, Blacksburg, Va., may have bulletins, too, on this subject.

Sudan Grass.
Do you know anything about the Sudan grass, which I see grows as strongly as Johnson grass and does not become a pest, and can be cut every three weeks? I have heard that the Sudan grass but the report that came from the experiments by the Department of Agriculture. I do not think that the seed is yet in commerce, but I have heard that small quantities are being distributed for trial by the Secretary of Agriculture. You can learn of this by applying to the Secretary of Agriculture, Washington, D. C.

Estimating Yield.
In a field of corn planted in rows four feet nine inches apart and a stalk every twelve inches in the rows, and every stalk makes an ear, how many bushels will there be on an acre? Really, I cannot say. There are ears and ears of corn, some large and some small. There might be over 100 bushels of ears, and in small ears there would be less. Such questions cannot be answered unless one knew the weight of the average ear. It would be far better to plant the corn in rows nearer together and make more room in the rows for the corn. After a good many experiments I have found that corn in rows four feet apart and two feet in the rows will make more corn than any other distance I have tried. Then, too, corn must be unusually well bred if every stalk makes an ear. I have seen it bred in that way, but the average cornfield will have 10 per cent or more with no ears.

Dual Purpose Cows.
I have heretofore had something to say in regard to what so many are fond of calling dual purpose cows, that is, cows that will give some milk and also raise fine calves or beef animals. But the effort to combine two such distinct characters in one animal fails. Dr. Taft Butler, in the Progressive Farmer, says on this matter: "It may be set down as a fact from which no man should stray, that it does not pay to milk and feed a poor cow, even if she does produce calves that make fairly good beef animals." If a farmer is interested in dairy products he cannot afford to sacrifice milk for the sake of making big calves. He should keep a breed that has been bred for generations bred to the best dairy type, and which will give him the most profit from the dairy. The calves, of course, will not be great, nor make beef stock, but he cannot afford to lose \$20 worth of milk to get a \$10 calf.

On the other hand, the man whose interest is in beef should keep the breed that best suits his pastures, and has been bred to the best beef type. This is entirely different from the dairy type, and the two cannot be combined to the best in one animal. The beef man can afford to ignore the dairy products, while the dairyman can afford to ignore the beef calves. Last year every row and then of a dairyman who has deep milking Shorthorns. In that case, they have been bred away from the beef type into a dairy type, and are excellent dairy animals, but to the same extent they are poorer beef stock. You cannot get the dairy type and still keep the best beef type, and a specialist in dairy or beef should keep only the type that has been bred for his specialty.

Wheat Preparation.
I think that you uniformly advise deep plowing and preparation for crops. Why then do you advise shallow preparation for the wheat crop? If the disk was done on land that had not been previously well broken the same season, I would not advise it. But consider the condition of the soil where a fallow is broken early in the season, and the land kept harrowed the remainder of the season. You then have the ideal condition for wheat, a well-broken soil early in the season, and given time for settling, the best safeguard against winter killing of wheat.

Now when we plow a piece of land deep for corn in the spring and cultivate the crop shallow, we then have the same condition in the soil as that produced by the long summer fallow, with its expense without a return. Then, as in the case of the fallow, we would not replow late in the season, so, in preparing the land after cutting off the corn, all that is needed is the fling of the surface. If I was preparing a fallow for the wheat I would certainly plow deeply, and would plow early in summer, but getting the same conditions in the soil through the plowing for, and the cultivation of a hoed crop like corn or tobacco, it would be damaging to the wheat crop to plow deeply in the fall. The shallow preparation of the corn or tobacco land for wheat, therefore, does not mean that deep breaking of the soil is not desirable, but the time of the breaking is the important matter.

And the same is true of the winter oats crop that is put in after a hoed crop. More winter killing is due to rough and loose preparation for this crop than any other cause. In Virginia the sowing should be in September always, and as the oats go in earlier than wheat, the preparation should be by disk or harrow only.

More About Fertilizers.
I am interested in what you say about fertilizers, and would like to know what you would use to make a 3-2-2 fertilizer, whether we can mix fertilizers to better advantage at home?

To make the low-grade 3-2-2 fertilizer, you can mix 750 pounds of 16 per cent acid phosphate, fifty pounds of nitrate of soda, 310 pounds of fish scrap, and eighty pounds of muriate of potash. This will give you 1,205

children cry
FOR FLETCHER'S
CASTORIA

pounds, containing all there is of value in the ton of 3-2-2. To make the ton you will have to add 791 pounds of filler or sand, and the farmer who buys the low-grade fertilizer pays for sacking and freighting this 791 pounds of useless material.

Now do not understand that I accuse the manufacturers of fraud, for there is no fraud in it, but it is made to meet the demand from farmers for a low-priced fertilizer and is very largely used by them, because they look to the price per ton rather than the fertilizing value of the ingredients. As I have before remarked, I went over the report from an experiment station on the analysis of the various fertilizers sold in North Carolina, and I counted over 100 different brands, each with a fancy name, one called a special for tobacco, and another special for wheat and so on through the whole list. And every one of these brands could have been taken from the same pile, for they were all the same thing, and every one of them were this low-grade 3-2-2.

And farmers, near neighbors, will each have his favorite brand, and think it better than what his neighbor uses, and both are the same identical thing with different brand names. Farmers buy too much by the brand and the price, and fail to investigate the plant food value of the fertilizer.

Soils and crops vary as to the needs of the different plant foods, and a farmer can better supply their needs by buying the various materials used in fertilizer mixtures and make the mixture for himself. He can then make a low grade, and put in the filler for himself, if he wishes, or can make a high grade, and use the filler if he uses except what naturally is combined with the materials used.

We must get the plant foods in certain combinations. We cannot use pure nitrogen, for that is a gas, and hence we get nitrogen in various combinations. Plants do not use nitrogen at all until it is in the form of a nitrate—that is, a salt of combination of nitric acid and some base, such as lime, potash or soda. When we use the natural nitrate of soda we get nitrogen in the most readily available form, and it must be used by plants as once or is rapidly leached from the soil.

When we apply cottonseed meal, fish scrap or tankage, or any organic material containing nitrogen, this must be broken down by the bacteria or decay and ammonia set free. Then another form of bacteria feed on this ammonia and form nitrates, and still another form use the nitrates, and the result is nitric acid from the soil. Then, when we have nitric acid, it at once unites with the lime or potash in the soil and makes a nitrate that plants can use.

This shows the value in making a fertilizer mixture of using some nitrate of soda for the immediate use of the plants, and then some material containing organic nitrogen to continue the work later in the season. We can get this organic nitrogen in cottonseed meal, tankage or fish scrap, and a few other materials less commonly used.

Farmers puzzle over the term per cent, and simply fail to understand that this is used in a fertilizer to simply mean so many pounds in each 100 pounds. In a ton, then, of 3-2-2, it means that there are 160 pounds of phosphoric acid, forty pounds of ammonia (32 pounds of nitrogen), and forty pounds of potash. This is all there is in 2,000 pounds of this low grade fertilizer.

Then fertilizer manufacturers know that farmers consider bone as a better material for phosphoric acid than rock, and they offer what they call bone and potash mixture, and there is not a particle of bone in it, but it is simply made of acid phosphate or dissolved rock phosphate and potash, and a 10-4 mixture will have 1,250 pounds of 16 per cent acid phosphate and 550 pounds of muriate of potash, with 150 pounds of sand to make the ton. You can buy the acid phosphate and potash and mix it for yourself and save the sacking and freight on the filler.

Some are asking about the Thomas phosphate, or Basic slag phosphate, as it is also called. This is a byproduct from the Basic process of making steel. The phosphorus is removed from the iron, and is in the slag left. This is ground fine and used as a source for phosphoric acid. It is not so readily available as the phosphoric acid in acid phosphate, but it has the value of not producing acid conditions in the soil as a long use of acid phosphate will through its robbing the soil of lime carbonate. The Thomas phosphate carries an average of forty pounds of free lime in each 100 pounds, and to that extent will tend to keep the soil sweet. But this same fact makes a difficulty in mixing complete fertilizers with Thomas phosphate, for the lime in connection with organic matter containing nitrogen will tend to carbonate the ammonia and make it volatile, and a fertilizer mixture in which Thomas phosphate is used to make a complete fertilizer may lose value if it stands long after mixing.

It can be made up and used at once, as the soil will absorb any particle of ammonia in it, but it should not be used if the mixture is to stand long unused. It can be mixed safely with the nitrate of soda or nitrate of potash.

Grain or Cotton Farmers Need Not Buy Nitrogen.

This brings us to the fact that I have long insisted upon. That a farmer who farms in a good rotation grows an abundance of legume forage and feeds it and saves and uses the manure intelligently will never need to buy ammonia or nitrogen in fertilizer. The manufacturers always use the term ammonia on their sacks, instead of nitrogen, for the figures look better. But it is nitrogen that plants want. Ammonia is a hydride of nitrogen, and is about 85 per cent nitrogen. They will print an analysis showing so much per cent of ammonia in nitrate of soda, when there is a particle of ammonia in it, but 15 per cent of ammonia looks bigger than 15 per cent nitrogen.

Now the farmer, as I have said, who farms right, can get through the clover and peas, and the manure made, all the nitrogen his grain or cotton crops need, and can get it in larger amount free than he could afford to buy in a fertilizer. I have cited the fact that in one of the best wheat-growing sections of Maryland hundreds of farmers have long ago abandoned the purchase of the so-called ammoniated fertilizers. Since then the price of the clover have greatly increased, and some of the best farmers use no fertilizer, but one carrying phosphoric acid, either acid phosphate or Thomas phosphate, while others use a different soil use some potash, and some of these farmers average forty bushels of wheat an acre in a favorable season, and that on land that formerly made less than half as much when they were depending on the complete fertilizer and neglecting the legumes.

RAILWAYS TO HELP FASHION SHOW WEEK

Will Offer Special Inducements to Out-of-Town People.

MERCHANTS IN UNISON

Are Determined to Show the Very Latest in Quality and Styles.

When any particular class of Richmond people get truly interested in anything looking to the general good of the city, all other classes very quickly get interested and each and every class gets right down to business to help the particular class work out to a successful end the particular thing it has in hand.

That is what is called in latter-day language "team work."

Richmond is some team work. The Retail Merchants' Association only a few days ago decided to do some team work this year, and in all of the years to come, perhaps. The announcement has already been made in these columns of plans made and adopted for the United Fashion Show and the Uniform Opening. The announcement was not a day old before the retail merchants were assured of the co-operation of all the other twentieth century classes of business men and organizations. The newspapers, the wholesale merchants, the manufacturers, the Chamber of Commerce, the Business Men's Association, and last, but not least, the railroads centering in Richmond have signaled "hurrah" to the retail merchants, and they are all coming in to help along the movement, which will attract to Richmond in the week bearing the dates September 23, 24, 25 and 26 throngs of people from all of the country surrounding. As has already been explained, the retail merchants propose to make the days above recorded the uniform fall opening time, and during that week the retail merchants of all kinds will have their openings in unison instead of in the haphazard way that has heretofore prevailed.

Railways to Help.
The railroads were quick to catch on, and yesterday the local representatives of the lines centering in Richmond were discussing the matter. Of course, no definite action has yet been taken, but it is safe to predict that within a week the roads will be announcing special inducements to out-of-town people to come to Richmond on September 23, 24, 25 and 26, get better acquainted, and do their shopping on the great fall opening days.

Just what will be the exact character of these inducements do not yet appear. It may be that reduced round trip rates will be offered on some of the roads, perhaps all of them. On others it may be that special excursion trains will be run, but it is certain that each of them will exert themselves in one way and another to accommodate the people who will be flocking to Richmond during the four days of the September 23. The commuters' trains and the regular passenger trains will have the necessary additional accommodations in the way of extra coaches to hold the people, and extra engines to pull the crowds, if necessary. The railroad officials are looking into the matter, and it is an assured fact that they will do their part to make the United Fashion Show a success.

The officials of the Retail Merchants' Association yesterday received additional assurances from the retail merchants of hearty co-operation in the Fashion Show work, and already the merchants are making their arrangements for decorations and for twentieth century displays of all kinds of goods.

"Fashion" is not confined to the dry goods, millinery and notion stores. Fashion has sway in the shoe stores, the hat stores, the men's clothing stores, the hardware stores, the furniture stores, the house-furnishing stores, and, in fact, in all of the stores. Somebody has said that fashion is something of a tyrant. Make the man, you is a pleasing old tyrant that all reverence and pay obedience to.

The Times-Dispatch's Great \$1200.00 Gold Booklovers' Contest
Picture No. 39 Date, September 3d.

Col. Robert A. Hutchison, Member of Governor's Staff, Jumps on Confederate Veteran.

(Special to The Times-Dispatch.)
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Colonel Hutchison, by his aggressive questioning during the cross-examination of the prisoner, angered Mr. Gulick, who told his attorney he did not tell the truth. Hutchison, who is more than 200 pounds, then jumped on Gulick, a man of small stature, and bystanders interfered before much damage had been done. The fight resulted in the prisoner losing a few strands of hair. The courtroom was filled with women, who were greatly frightened by the outbreak.

Mr. Gulick is a member of the Board of Supervisors of Prince William County.

TAKING REST CURE
Miss Dodge Is Merely Tired, and Has Gone Away for a While.
(Special to The Times-Dispatch.)
New York, September 2.—Miss Lucy Bigelow Dodge, whose disappearance from London was an international sensation until she was found several days later, is taking the rest cure in a sanatorium. Miss Dodge has been visiting her aunt, Mrs. Tracey, of No. 21 Gramercy Square. Miss Tracey, who is at Highland Falls with her mother, said to-day:

"Miss Dodge is tired, and has gone away for a few weeks' rest, that is all. Nothing serious."

Fair at Staunton Opens.
(Special to The Times-Dispatch.)
Staunton, Va., September 2.—The Shenandoah Valley Fair opened here to-day for a four days' exhibition, with the finest exhibits. It is said, ever shown here. A good crowd attended. There are races every day, with some horses from the grand circuit. Aviator Edelman made one flight and will fly every day.

Win \$300 in Gold By Laughing!

For solving seventy-seven pictures, each of which represents the title of a book, The Times-Dispatch will award \$1,200 in prizes, starting with \$300 in gold coin. Any of the grand prizes means a start in life for you. Why not start this jolly game of solving pictures, take your share of the prize money, and make your life a little merrier?

What the Booklovers' Contest Is

It simply consists of seventy-seven pictures, one published each day in this paper, and each picture representing the title of a book. To those most successful in telling what book titles the pictures represent will be given absolutely FREE the wonderful prizes listed below.

A Catalogue has been issued which contains the very book titles from which the seventy-seven pictures have been drawn to represent. This Catalogue is a list of over 5,000 book titles, and you do not have to be a reader of books to enter this great Booklovers' Game. The Answer Book enables you to make ten answers to each picture, yet you need but one copy of each picture. This saves you the cost of extra pictures and coupons on which to make extra answers, and all you have to do is to paste the picture in the space provided for it, and then below the picture write down your answer or answers in the spaces ruled off for this purpose.

ALL OF THE PICTURES PUBLISHED TO DATE ARE GIVEN TO YOU FREE WITH THE CATALOGUE, SO THERE IS NO REASON WHY YOU SHOULD NOT START IN THE GAME TO-DAY. GET THE CATALOGUE AND ANSWER BOOK, ALL THE PICTURES PUBLISHED TO DATE FREE, AND START TO SOLVE THE PICTURES. YOU CAN DO IT, AND EASILY TOO. WHAT PRIZE ARE YOU GOING TO MAKE UP YOUR MIND TO WIN?

Start To-Day Start To-Day

CATALOGUES, 35 CENTS AT THE OFFICE, 40 CENTS BY MAIL.

ANSWER BOOKS, 75 CENTS AT THE OFFICE, 80 CENTS BY MAIL.

THERE ARE FIFTY PRIZES IN ALL TOTALING IN VALUE \$1,200 IN GOLD.

FIRST PRIZE IS \$300 IN GOLD.

THIRD PRIZE IS \$150 IN GOLD.

FIFTH PRIZE IS \$50 IN GOLD.

7TH, 8TH, 9TH AND 10TH PRIZES ARE \$25 EACH IN GOLD.

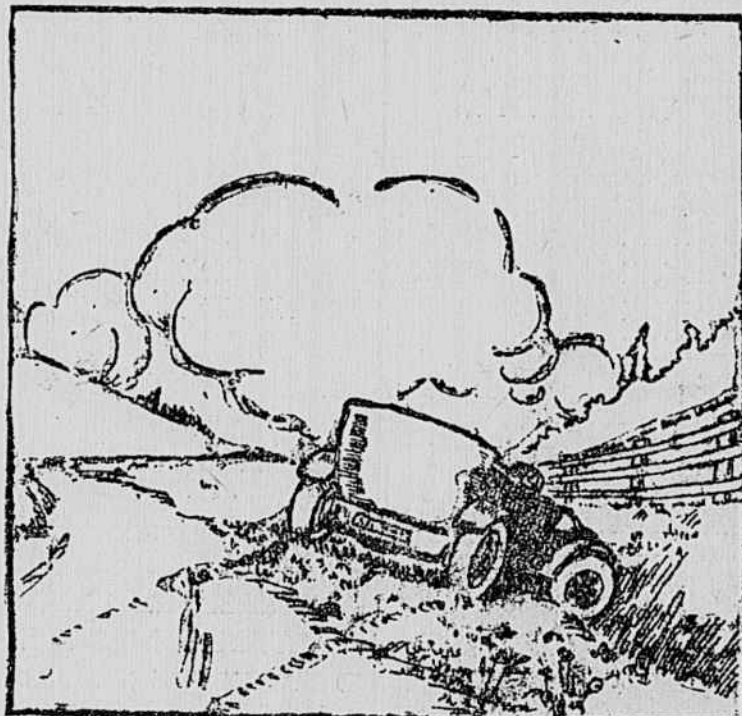
11TH, 12TH, 13TH, 14TH, 15TH, 16TH, 17TH, 18TH, 19TH AND 20TH PRIZES ARE \$10 EACH IN GOLD.

TWENTY-FIRST TO FIFTIETH PRIZES ARE \$5.00 EACH IN GOLD.

SO YOU GET INTO THIS GREAT GAME TO-DAY AND WIN YOUR SHARE OF THIS MONEY.

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What Book Does This Picture Represent? Write Title and Name of Author in Form Below

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TOTAL NUMBER OF PICTURES, 77. Contest began July 27th. Each day a different picture appears in this space. Cut them out. Save them until the last picture appears on October 11th. Don't send in partial lists. Wait until you have all the answers to the 77. Read Rules, Daily Story and Special Announcements in another part of this paper. It will help you win a prize. Extra pictures and coupons of any date that have appeared may be had at 2c. Enter to-day without registering your name. Merely Save Pictures and Coupons as they appear.

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Booklovers' Contest Editor,
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How They Work

These fakers generally advertise that for a 2-cent stamp they will send several titles, which, in the opinion of the fakers, will prove correct titles to the pictures. Accompanying the "sample" lists of titles will be a letter advising that for 50 cents, a dollar, two dollars, or more, they will supply lists of titles that will seem to fit the pictures. Don't deal with these sharpers. If they could furnish a list of titles, they would solve the pictures—they would use their own lists and win the prizes. They know no more about the titles than you do.